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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/670,524

09/26/2003

Koji Sakiyama

Q77632

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23373 7590 11/07/2007  
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EXAMINER

FIGUEROA, FELIX O

ART UNIT

PAPER NUMBER

2833

MAIL DATE

DELIVERY MODE

11/07/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

717

# Office Action Summary

Application No.

10/670,524

Applicant(s)

SAKIYAMA ET AL.

Examiner

Felix O. Figueroa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/04/2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

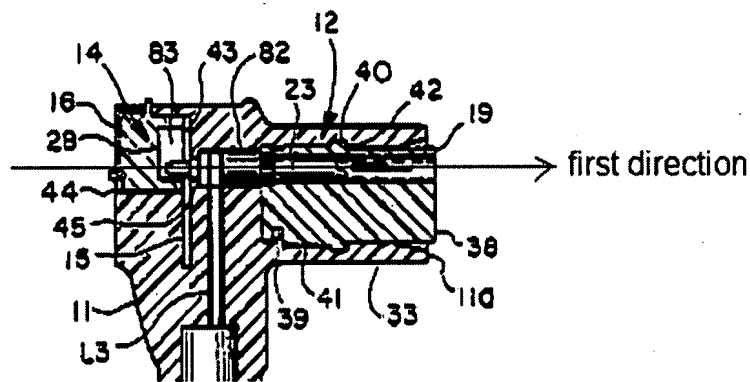
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 7, 8, 10, 11, 13, 14, 16, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guss, III (US 5,062,807) in view of Fuchs et al. (US 6,652,293) and Weidler et al. (US 5,443,403).

Guss discloses a connecting structure for auxiliary machinery and a cable (18) in which conductors (L1-L3) are surrounded by an insulating covering; and an auxiliary machinery (10) attached directly to this the cable the auxiliary machinery comprising: a housing (11) comprising a board (15) on which electronic components (26,28) are mounted and to which a specific circuitry pattern has been formed; a discrete connection terminal (23) connected to the circuitry pattern on the board and to at least

one conductor among the conductors of the cable, extending in a first direction (see following figure) there-between, and comprising opposite ends in the first direction which terminate within the auxiliary machinery and are covered by the auxiliary machinery in the first direction (from left to right in the following figure); an exposed connecting portion configure to exposed the discrete connection terminal on an outer surface of the housing; and a molded part (16) for sealing a connection between the connection terminal and the at least one conductor of the cable.

**FIG. 7**

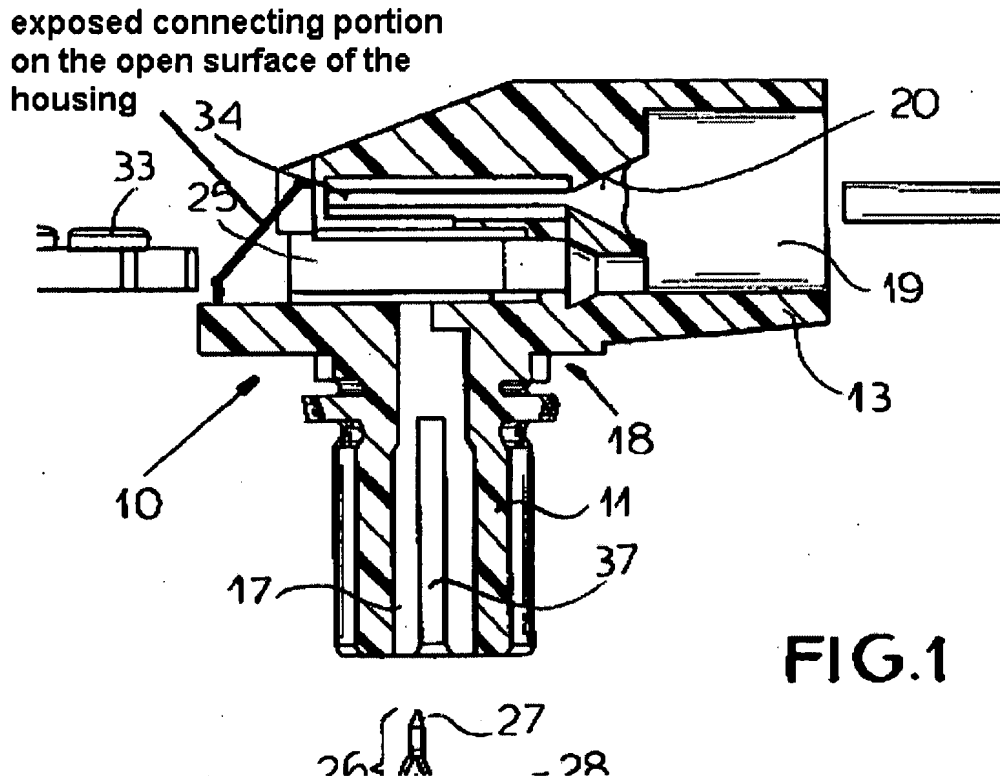


Guss discloses substantially the claimed invention except for the flat configuration of the conductors. Fuchs teaches the use of conductors arrayed in a flat configuration. This flat configuration permits a reduction of the size/profile of the connecting structure. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the conductor of Guss in a flat configuration, as taught by Fuchs, to reduce the size/profile of the connecting structure. See further discussion in the section Response to Arguments.

Guss discloses substantially the claimed invention except for the specific exposed connecting portion. Fuchs teaches an exposed connecting portion (see

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following figure) configure to expose a connection between the discrete connection terminal and at least one conductor of the cable on an outer surface, thus allowing easy insertion of the conductor and visual inspection of the connection between the conductor and the terminal. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form an exposed connecting portion, as taught by Fuchs, to allow easy insertion of the conductor and visual inspection of the connection between the conductor and the terminal.



Guss, as modified, discloses substantially the claimed invention except for the flat cable. Weidler teaches the use of flat cables (54, 56) thus facilitating assembly of the connector arrangement. Therefore, it would have been obvious to a person of

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ordinary skill in the art at the time the invention was made to use a flat cable, as taught by Weidler, to facilitate assembly of the connector arrangement.

Regarding claim 3, Guss discloses a waterproofing structure for an auxiliary machinery (10) that is directly connected to a cable (18) in which conductors (L1-L3) are surrounded by an insulating covering; the auxiliary machinery comprising: a housing (11) comprising a board (15) on which electronic components (26,28) are mounted and to which a specific circuitry pattern has been formed; a discrete connection terminal (23) connected to the circuitry pattern on the board and to at least one conductor among the conductors of the cable, extending in a first direction there-between, and comprising opposite ends in the first direction which terminate within the auxiliary machinery and are covered by the auxiliary machinery in the first direction (from left to right in the previous figure); and a molded part (16) for sealing a connection between the connection terminal of the housing and the at least one conductor of the cable, the molded part located near the connection in the first direction.

Guss discloses substantially the claimed invention except for flat configuration of the conductors. Fuchs teaches the use of conductors arrayed in a flat configuration. This flat configuration permits a reduction of the size/profile of the connecting structure. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the conductor of Guss in a flat configuration, as taught by Fuchs, to reduce the size/profile of the connecting structure. See further discussion in the section Response to Arguments.

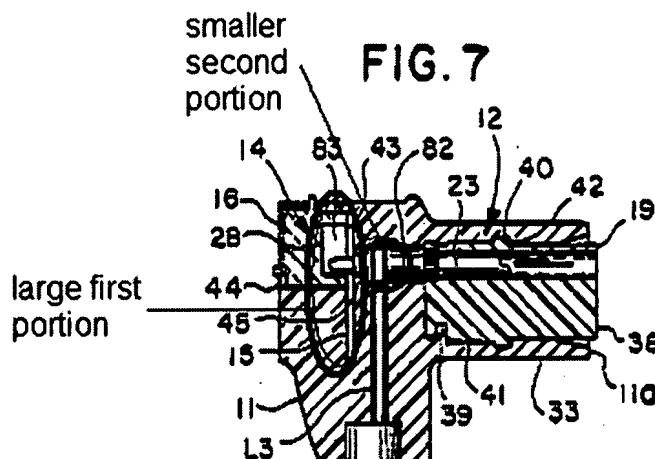
Guss discloses substantially the claimed invention except for the specific exposed connecting portion. Fuchs teaches an exposed connecting portion (see previous figure) configure to expose a connection between the discrete connection terminal and at least one conductor of the cable on an outer surface, thus allowing easy insertion of the conductor and visual inspection of the connection between the conductor and the terminal. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form an exposed connecting portion, as taught by Fuchs, to allow easy insertion of the conductor and visual inspection of the connection between the conductor and the terminal.

Guss, as modified, discloses substantially the claimed invention except for the flat cable. Weidler teaches the use of flat cables (54, 56) thus facilitating assembly of the connector arrangement. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a flat cable, as taught by Weidler, to facilitate assembly of the connector arrangement.

Regarding claims 7 and 8, Guss discloses the molded part being molded over the connection between the terminal and the conductor. The examiner notes that the claim describes a process of manufacturing (i.e. "secondarily molded"... "after the connection is completed") which is incidental to the claim apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claim product and the prior art, the subject by process claim limitation is afforded little patentable weight (see MPEP 2113).

Regarding claims 10 and 11, Guss discloses two molded parts (16,19) provided, each one arranged to seal on of the opposite end portions of the connection terminal in the first direction. Please note that the molded part (19) seals (at least the outer surface of) the end portion (left side in Fig.7).

Regarding claims 13 and 14, Guss discloses the housing comprising a large first portion that contains the board; and a smaller second portion extending orthogonally from the large first portion, and wherein the cable is attached to the housing at a distal end of the smaller second portion.



Regarding claims 16 and 17, Guss discloses the molded part (16) also sealing the connection between the terminal of the housing and the circuitry pattern of the board. Please note that the molded part (16) seals any moisture that could pass between the interface of the terminal (23) and the housing (11).

Regarding claims 19 and 20, Guss discloses the molded part covering both of the opposite end portions of the connection terminal in the first direction (from left to right in Fig.7).



Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guss, Fuchs and Weidler, as applied to claim 1 above and further in view of Boyle (US 5,620,333).

Guss, as modified, discloses the auxiliary machinery being coupled to an end of the cable at a first end portion (near top of Fig.7) of the housing of the auxiliary machinery, the at least one conductors being connected to a proximal end portion (27) of the connecting terminal along the first direction that is perpendicular to axes of the conductors. Guss discloses substantially the claimed invention except for the cable laying along the outside of the housing. Boyle teaches a connector having a cable (12) installed so as to extend along the outside of the housing (16,18) over a specific distance from a first end (top-right side of Fig.1) to a second portion (near bottom of Fig.1) of the housing, and at the second portion the axes of the conductors bend in a direction perpendicular to the side of the housing (near the bottom of Fig.1) to provide strain relief to the cable connection. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to place the cable of Fuchs laying along the outside of the housing, as taught by Boyle, to provide strain relief to the cable connection.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guss, III and Fuchs et al., and further in view of Weidler and Arnett (US 5,238,426).

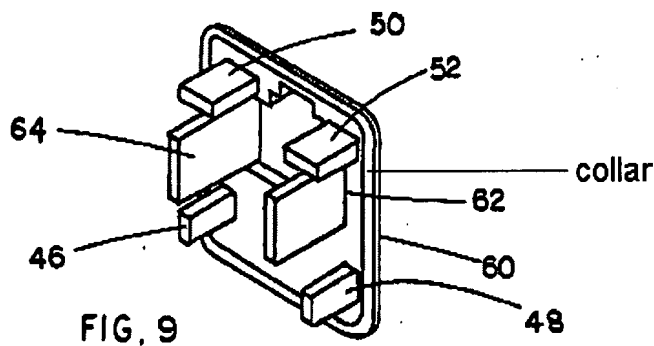
Guss, as modified, discloses substantially the claimed invention (see discussion on claims 1 and 3) except for the flat cable. Weidler teaches the use of flat cables (54, 56) thus facilitating assembly of the connector arrangement. Therefore, it would have

been obvious to a person of ordinary skill in the art at the time the invention was made to use a flat cable, as taught by Weidler, to facilitate assembly of the connector arrangement.

Guss, as modified by Fuchs, discloses substantially the claimed invention (see discussion on claims 1 and 3) except for the receiving member and the retainer. Arnett teaches a mounting structure for an auxiliary machinery / connector (60) directly coupled to a plurality of conductors (not labeled), mounted to a receiving member (22) with a mounting hole (24); wherein the distal end (right of 60 on Fig.2) of the housing can engage the mounting hole; and a retainer (30) that attaches to the distal end of the housing and an outer periphery (at 32) of which engages in the mounting hole of the receiving member; wherein the auxiliary machinery is mounted to the receiving member by attaching the retainer in the mounting hole from one side of the receiving member (right side), and attaching the housing to the retainer from the other side of the receiving member (left side) to securely mount the auxiliary machinery onto a predetermined usage/working location (see abstract lines 22-26). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to mount the auxiliary machinery of Fuchs on a receiving member, as taught by Arnett, to securely mount the auxiliary machinery onto a predetermined usage/working location.

Claims 5, 6, 9, 12, 15, 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guss, Fuchs, Weidler and Arnett, as applied to claim 4 and further in view of Archer (US 5,125,852).

Arnett teaches the retainer being provided with abutting portions (34) for interlocking with a periphery of the mounting hole from a side opposed to a side in which side housing is attached, a projecting part (44) for interlocking with a periphery of the mounting hole from the side in which the housing is attached, and an interlocking projection (at 58) that interlocks with the housing. However, Arnett does not disclose the abutting portions being a collar. Archer discloses an abutting portion (see following figure) in the form of a collar. This arrangement provides a better and more stable assembly between the retainer and the receiving member (20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the abutting members of Arnett in the form of a collar, as taught by Archer, in order to provide a better and more stable assembly with the receiving member.



Regarding claim 6, Arnett teaches the retainer is provided with abutting portions (34) for interlocking with the periphery of the mounting hole from a side opposed to a side in which the housing is attached and an interlocking projection (at 58) that interlocks with the housing, and the auxiliary machinery be mounted and firmly fixed to the receiving member. See discussion on claim 5 regarding the use of a collar instead of abutting projections. Arnett also discloses one periphery of the mounting hole being

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held by the collar / abutting portions. Arnett, as modified, discloses substantially the claimed invention except for the other periphery of the mounting hole being held by housing. Archer discloses the peripheries of the mounting hole are held between the collar and a distal end of the housing after it has been mounted in the retainer. This arrangement provides a more stable engagement between the housing and the receiving member. It would have been obvious to one of ordinary skill in the art at the time the invention was made form the housing of abutting a periphery of the receiving hole, so that the peripheries of the mounting holed are held between the collar and the housing, as taught by Archer, in order to provide a more stable engagement between the housing and the receiving member.

Regarding claim 9, Guss, as modified, discloses the molded part being molded over the connection between the terminal and the conductor. The examiner notes that the claim describes a process of manufacturing (i.e. "secondarily molded"... "after the connection is completed") which is incidental to the claim apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claim product and the prior art, the subject by process claim limitation is afforded little patentable weight (see MPEP 2113).

Regarding claim 12, Guss discloses tow molded parts (16,19) provided, each one arranged to seal on of the opposite end portions of the connection terminal in the first direction. Please note that the molded part (19) seals (at least the outer surface of) the end portion (left side in Fig.7).

Regarding claim 15, Guss discloses the housing comprising a large first portion that contains the board; and a smaller second portion extending orthogonally from the large first portion, and wherein the cable is attached to the housing at a distal end of the smaller second portion.

Regarding claim 18, Guss discloses the molded part (16) also sealing the connection between the terminal of the housing and the circuitry pattern of the board. Please note that the molded part (16) seals any moisture that could pass between the interface of the terminal (23) and the housing (11).

Regarding claim 21, Guss discloses the molded part covering both of the opposite end portions of the connection terminal in the first direction (from left to right in Fig.7).

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicant's argument that Fuchs does not teach an opening with the connection being exposed on outer surface, please note that the opening is on the outer surface and it exposes the connection to the outside/environment.

In response to Applicant's argument regarding the cable extending along an outer surface of the auxiliary machinery, please note that due to the right angle connection shown by Fuchs and Guss, the cable will extend along an outer surface of the auxiliary machinery.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Felix O. Figueroa whose telephone number is (571) 272-2003. The examiner can normally be reached on Mon.-Fri., 10:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (571) 272-2800 Ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Felix O. Figueroa/  
Primary Examiner  
Art Unit 2833